

REMARKS

These remarks and the accompanying amendments are responsive to the Office Action dated October 4, 2006 (hereinafter referred to as the "Office Action"). At the time of the last examination, Claims 7-10 were pending, of which Claims 7 and 9 are independent. The Office Action rejected Claims 7-10 under 35 U.S.C. 103(a) as being unpatentable over United States patent serial number 6,212,176 issued to Andersson (the patent hereinafter referred to simply as "Andersson").

More specifically, referring to section 3 of the Office Action, the Office Action states by referring to Control Channel Transceiver in Figure 4 of Andersson, that Andersson discloses a means and method for forming logical channels, means for mapping the logical channel to a physical channel and means for transmitting the logical channel signals over the physical channel. Further, by referring to Figure 9 of Andersson, the Office Action asserts that Andersson teaches that each logical channel includes information and an error detecting code (CRC).

Even though the Office Action admits that Andersson fails to teach that the number of radio frames (slots) of a fixed duration increases when the transmission rate of the physical channel decreases, the Office Action asserts that since each slot can carry less amount of information when the transmission rate of the physical channel is lowered, it would have been obvious to one skilled in the art to increase the number of time slots in order to ensure the same amount of data to be transmitted.

1) However, first of all, when we focus on one type of data, that data is not always transmitted by using the entire band of a single time slot. For example, in Figure 12 of the present application, when we focus on the data of ACCH, the data of ACCH is time-multiplexed with the data of DTCH which is another channel in a single time slot. Thus, even if the

transmission rate of the physical channel decreases, by increasing the ratio of the data of the channel that we focus on to the data of another channel in a single time slot, we do not have to increase the number of time slots in order to ensure the same amount of data to be transmitted over the channel that we focus on.

Therefore, it cannot be said that it would have been obvious to one skilled in the art to increase the number of time slots in order to ensure the same amount of data to be transmitted, when the transmission rate of the physical channel is lowered.

Thus, the Office Action's above-mentioned logic for rejecting claims 7-10 is based on a false premise, and thus does not provide a *prima facia* case for the rejection of claims 7-10.

2) Further, in Andersson, it cannot be said that it would have been obvious to one skilled in the art to increase the number of time slots in order to ensure the same amount of data to be transmitted, when the transmission rate of the physical channel is lowered.

That is, in Andersson, as it can be understood from Figure 7, a single frame (consisting of six slots) of the physical channel is 1944 bits, 40 ms, and the transmission rate of the physical channel is fixed.

Further, as shown in the attached Reference Figure, Andersson changes the transmission rate of the information by changing the number of slots used in a single frame. That is, according to the table described at column 14, lines 40-48 of Andersson, there are four types of transmission rates. For example, if the rate is "full rate", two slots (the first and fourth slots) in a single frame are used, and if the rate is "2 full rate", four slots (the first, fourth, second and fifth slots) in a single frame are used. A single slot can take the form of one of Figures 8a-8c. When we focus on Figure 8c which is the preferred form, the areas for storing "DATA" are $130 + 130 = 260$ bits. This "DATA" corresponds to "Information" (109 bits, when the form of Figure 8c is

used) + "CRC" (16 bits) + "Tail" (5 bits) described in Figure 9 (the total bits are 130 bits). According to column 17, lines 11-16, those 130 bits of Figure 9 undergo 1/2-rate convolutional encoding and become 260 bits. Those 260 bits are stored in the two "DATA" areas ($130 + 130 = 260$ bits) in a single frame of Figure 8c. Thus, when the rate is "full rate", two slots in a single frame are used to transmit 109 bit information twice. While when the rate is "2 full rate", four slots in a single frame are used to transmit 109 bit information four times. In this way, Andersson changes the transmission rate of the information.

Therefore, Andersson can change the transmission rate of the information without changing the transmission rate of the physical channel. Therefore, there is no motivation to change the transmission rate of the physical channel in Andersson.

Thus, in Andersson, it does not happen that the transmission rate of the physical channel is lowered. Therefore it also does not happen that the number of time slots is increased in order to ensure the same amount of data to be transmitted, when the transmission rate of the physical channel is lowered.

Thus, claims 7-10 which increases the number of radio frames of the fixed duration on the physical channel into which each logical channel unit is mapped as the transmission rate of the physical channel decreases, are not obvious over Andersson.

3) In addition, in Andersson, even if we assume that "full rate", "2 full rate" and so on are the transmission rates of the physical channel, as shown in the attached Reference Figure, the number of slots (fixed duration) into which "Information" + "CRC" + "Tail" (total 130 bits) shown in Figure 9 (corresponding to a single logical channel unit) are mapped is always one regardless of the transmission rate. Therefore, even if the transmission rate of the physical

channel is lowered from "2 full rate" to "full rate", the number of slots into which each logical channel unit is mapped remains one.

Thus, even from this point of view, claims 7-10 which increases the number of radio frames of the fixed duration on the physical channel into which each logical channel unit is mapped as the transmission rate of the physical channel decreases, are not obvious over Andersson.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 19th day of December, 2006.

Respectfully submitted,

/ADRIAN J. LEE/

Adrian J. Lee
Registration No. 42,785
Attorney for Applicants
Customer No. 022913

AJL:ds
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